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ABSTRACT

A broad overview of a two-year Peace Corps project designed to implement educational television (ETV) in Colombia is presented in this report. The project is briefly described in an opening section, including discussions of the Peace Corps' goals, Colombia's conditions and need for ETV, the Volunteers, organization of the project, telecasting, the Colombian teacher, the schools, and the research. Research findings showed recurrent issues: the role of the Peace Corps Volunteer, the challenge of employing the electronic means of a technologically advanced society in a developing country, the Volunteer's effectiveness in achieving educational change, and the transfer of responsibility and authority to Colombia. (Author/SP)

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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The Peace Corps inaugurated the educational television (ETV) project in Bogota, Colombia, at the beginning of 1964. During the first weeks, 38,000 pupils in 200 schools in or near the capital received a small portion of televised instruction. Two years later, 345,000 pupils in 1,150 schools throughout the country, about 20 percent of the national enrollment, were receiving the core of all instruction by television.

The research covered these crucial first two years. Changes were many and varied as the project faced and solved problem after problem. Yet, there were recurrent issues: the role of the Peace Corps Volunteer; the challenge of employing the electronic means of a technologically advanced society in a developing country; the Volunteer's effectiveness in achieving educational change; and, the transfer of responsibility and authority to Colombia.

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It is impossible, of course, to discuss completely either the project or the associated research (the final reports alone approach a foot high stack). The focus will be on these recurrent issues, which are arrayed around the larger question of the Peace Corps' impact on education in Colombia.

The Project

The Peace Corps set two broad goals: a) to improve education in Colombia's elementary schools, and b) to establish television as a powerful and flexible tool for education at all levels. It has attempted to televise the elementary curriculum (grades 1 through 5 in Colombia), set up a receiving network of schools, train teachers directly and by television, and build a competent and dedicated Colombian organization for independent operation.

Why Colombia? This is the only major Peace Corps effort in educational television, and the largest educational television project in the world. It has developed in Colombia because of unusually favorable conditions and great need.

The conditions favorable for television include:

--- A national language, Spanish, spoken by almost everyone.

--- A well-established and large system of free, public elementary education.

--- A national syllabus which all teachers roughly follow.

--- A national television network.

The need for innovation was not small:

--- Teachers are poorly educated and scantily trained, with most instruction in the hands of the unqualified. At the time the project began, the majority (about 53 percent) had no degree at all, not having completed high school.

--- Schools are poorly equipped, almost completely without books, maps, pictures, or other aids.

--- Rote memorization is the customary method, often practiced in group response to teacher cueing.

--- A competing network of inexpensive private schools leaves public schools to serve children from the most indigent strata, whose homes are the least able to compensate for inadequacies in schooling.

--- Population growth is rapid, increasing demand on public education. The rate in the mid-1960s was 3.2 percent annually, compared with 1.6 percent for the United States. A United Nations commission estimated that 4,000 newly trained teachers would be needed each year

throughout the decade, a productivity far beyond Colombia's capability, making a technology that could increase the effectiveness of less well trained teachers attractive.

The emphasis on elementary education was inevitable, for that is the only level at which Colombia has a large public school system. In addition, it has been government policy to upgrade elementary education.

Colombia also had experimented previously with elementary school television, but with insufficient investment. There was not enough television reaching enough schools, problems of classroom use were ignored, and firm and consistent governmental support was lacking. The Peace Corps attempted to overcome these difficulties by insuring sufficient scale and a "vertical" strategy of working at all levels--from ministries to classroom.

The Volunteers. In the mid-1960s, about half of all Volunteers were in education, and most of these were teaching. The Volunteers of this project stand in sharp contrast. Their task was to develop a new educational institution based on electronic technology.

None served as school teachers, either on- or off-screen. Instead, they were largely mediators between the new and the old--between the television and the Colombians who were to work with and use it.

About 80 Volunteers were assigned fulltime. A breakdown of assignments gives a good picture of how the project operated:

--- About two-thirds were in utilization--initially conceived to be the advising of Colombian teachers on how to teach effectively in coordination with television.

--- About one-fourth were in production--the putting together of the telecasts.

--- The remainder were in installation/maintenance--the setting up of a receiving network of television sets in the schools.

The large number in utilization is noteworthy. The Peace Corps recognized what is so often forgotten when media are used for instruction--that effectiveness depends on what takes place at the point of reception. Without exposure, attention, and facilitating behavior, there will be no or little learning. Because of the importance of the

job, and because the investment in manpower was proportionately so great, much of the research concerned the work of these Volunteers.

Organization. There were really two organizations, one Colombian, one Peace Corps. Although manifestly a partnership, during the early years the Peace Corps was the initiator of most activities, restricted only by what the Colombians would or could support.

Such leadership, of course, must be expected. Its sources are precisely those capabilities that make outside help useful at times in developing countries--more efficient and knowledgeable administration (the Peace Corps project director was a professional television educator), greater expertness, more manpower, stronger financing, and great enthusiasm. The hard trick is to develop equivalent host country capabilities--legerdemain at which the Peace Corps succeeded fairly well.

When the project began, Volunteers exceeded Colombians not only in skills but by a rather dramatic margin in numbers--77 Volunteers to 22 Colombians. This imbalance was largely the result of a reneging by Colombia on a promise of 50 utilization counterparts, because of a fiscal crisis. Two years later, the figures were 71 Volunteers and 49 Colombians.

The gains were not solely in numbers. From the beginning, all teachers on television were Colombians, but at first only Volunteers had the skills to be television producer-directors. Later, the Volunteers trained Colombian producer-directors on the job. The same was done for other studio and installation/maintenance jobs.

The lack of utilization counterparts halved expected manpower and slowed project growth. This forced the Peace Corps to innovate. It turned from the national government to the Departments (states) for support at the school level. This fit reality, for while the curriculum is under national control, the schools are really run by the Departments, which budget and disburse.

The Departments provided supervisors for school television, and financed other local television activities. In addition to the added help (about 12 supervisors in the project's second year), this gained a firm local base for the television, and established permanent school level positions for ETV specialists.

At the beginning, Volunteers outnumbered Colombians in every phase of the project. After two years, this was true only of utilization. Everywhere, Colombian skills and responsibility had been increased, and in utilization a foundation for future independence had been built.

Telecasting. Telecasting used the facilities of the government-controlled Instituto Nacional de Radio y Television, whose open national network previously was used only in the evenings for commercial broadcasts. Most of the television was elementary level instruction, although from the first there was in-service training for teachers, and eventually courses for teachers in training and adult instruction in health, literacy, and other areas.

The amount of programming during the early years is truly impressive. The basic elementary subjects in Colombia are language arts, mathematics, natural science, and social studies. Throughout the first year, 300 minutes a week in 10 courses for one or another of the elementary grades were televised. In the second year, the figures increased to 450 minutes a week and 15 courses, with an additional 150 minutes of repeats. Each course involved two 15 minute telecasts a week, giving the core of instruction. In addition, in-service teacher telecasts increased from 30 minutes a week the first year to 60 minutes a week.

The Colombian Teacher. The importance in the project of the Colombian school teacher cannot be overstated. The plan called for each telecast to fill the center portion of a class hour, and for the teacher to: a) provide a "motivating" and "follow-up" presentation following printed previews, and b) pace his teaching to fit the television. This constituted a revolution (and led to an occasional revolt) in the schools.

Despite the national curriculum, Colombian teachers were unaccustomed to preparing lessons in advance, changing past practices, or organizing large blocks of instruction. In addition, despite fear of officialdom, officials are seldom seen in the schools. Schools and teachers go much their own way. As a result, the teacher was the "gatekeeper" who controlled the pupils exposure. Success depended on his attitudes and behavior.

The Schools. Colombian schools vary a great deal on every dimension, but most are schools of poverty. They vary in size from 50 to 1,000; in program from one to all five grades; in housing, from spare rooms and open sheds to fairly modern and pretty, large buildings, and there are many attractive schools built under the Alliance for Progress; and in staff from the eager and interested to the bored. Most, however, are overcrowded, lack sufficient equipment, including chairs and desks, and have few teaching aids. One book per classroom is not rare. There simply is not enough money for what is needed, and even salaries sometimes go unpaid for months.

The ETV project installed one television set per school, which was to be placed in a room equipped for use as a small auditorium. This was not always easy to achieve, for space and equipment were scarce. Often, schools used a classroom that was also in regular use, adding to the problems caused by the unfamiliar changing about of classes for viewing.

The Research. There were two years of field study during which a group of researchers were resident in Colombia. The goals were to help the ETV project by evaluative, diagnostic, and prescriptive research while gaining as much knowledge as possible that might be useful to the Peace Corps elsewhere. Obviously, no single grand design would have been sufficient. The strategy was to conduct a variety of specific studies, focusing on the issues of pressing importance, with the studies building on each other in programmatic fashion.

It is impossible to succinctly summarize the studies, partly because there were so many, and partly because in this kind of situation a specific effort often breaks into several studies. There were large and small experiments testing project operations, teaching techniques, and persuasive appeals to gain cooperation; a half dozen teacher surveys with a variety of measures; much testing of pupils and teachers; the systematic collecting of diaries and reports from Volunteers; and a great deal of interviewing. Data included about 15,000 pupil and 1,550 teacher tests; survey returns from about 5,200 teachers; and more than 1,000 hours of focused interviews.

There is always a certain interest in the problems of researchers abroad, although whether it is instrumental or morbid is moot. This is not the place to recount problems, for they were numerous, but the curious may enjoy the Appendix.

SOME FINDINGS

The Role of the Volunteer

Much research concerned the utilization Volunteer. Two reasons, already noted, were interest in the point of reception and the manpower investment. Another was that from the first a major problem was insuring regular pupil exposure to the television.

Most of these Volunteers were "A.B. generalists." Initially, the Peace Corps conceived their role as advising teachers on how to teach better along with the television. They were to be consultants in pedagogy, shifting their attention from teacher to teacher as teaching improved and the project expanded.

In the first semester, the effectiveness of the television and the Volunteer's counsel were tested. Pupil achievement was measured in a field experiment with four conditions--no television, television only, television plus less than normal contact with the Volunteer, and television plus normal contact with the Volunteer. Data consisted of 7,100 tests from pupils in 178 classes, with the design replicated over all television courses. The principal finding was that some greater achievement could be attributed to the television, but none to the Volunteer.

At the same time, informal reports indicated that the Volunteers were spending a great deal of time on non-instructional problems. These included inadequate furnishings and space for good viewing; ignoring of the television schedule; failures in scheduling and shifting classes; irregularities in electrical power, due both to local service and school wiring; and problems in TV set use. Gaining exposure was the Volunteer's first problem.

Other data raised additional questions. Before and after the first semester, a panel of about 250 teachers was surveyed. One finding was that enthusiasm, measured by attitudes toward ETV, the Volunteer, and the status ETV brought the teacher declined (Table 1). Another was that contact was the Volunteer correlated positively with achieving favorable attitudes (Table 2).

Table 1

TEACHER ATTITUDE CHANGE OVER THE SEMESTER

	Percent Changing		Total Percent Giving More Favorable Response		Direction of Change if p. = or < .10	N	X^2	p.*
	Negatively	Positively	Before	After				
Teacher Opinion on:								
Degree the Volunteer can help the teacher	28.3	3.5	78.8	54.0	Negative	198	38.11	< .001
Pupils' preference for TV classes as compared to conventional classes	23.0	8.0	76.0	61.0	Negative	200	14.52	< .001
Degree TV can help or reinforce own teaching	14.4	10.9	83.2	79.7		202	.96	n.s.
Teacher Status Perceptions: Belief that a teacher is thought fortunate by:								
Other teachers	22.2	7.0	75.3	60.1	Negative	198	15.52	< .001
Officials	13.7	9.0	82.1	77.4		190	1.83	n.s.
Parents	20.2	7.7	79.3	66.8	Negative	193	10.67	< .005

*Two-tailed.

Table 2

CHANGE IN TEACHER ATTITUDE AND CONTACT WITH VOLUNTEER

TEACHERS INITIALLY MORE FAVORABLE

Percent of teachers who initially were more favorable who later changed to become less positive for those who with the Volunteer had:

	More Contact	Less Contact	Net Effect* of Contact
Teachers saying:			
1) TV improves own teaching a great deal	9.4 (96)	21.5 (107)	+ 12.1
2) Children very much prefer TV to non-TV classes	25.4 (83)	35.6 (101)	+ 10.2
3) Volunteer can give great help to teacher with TV	34.4 (93)	33.6 (104)	- 0.8

*Difference in percentage points between those with more and less contact. Plus sign indicates more contact retarded negative change, or net effect of contact.

TEACHERS INITIALLY LESS FAVORABLE

Percent of teachers who initially were less favorable who later changed to become more positive for those who with the Volunteer had:

	More Contact	Less Contact	Net Effect* of Contact
Teachers saying:			
1) TV improves own teaching a great deal	90.9 (11)	56.7 (30)	+ 34.2
2) Children very much prefer TV to non-TV classes	54.5 (22)	17.1 (35)	+ 37.4
3) Volunteer can give great help to teacher with TV	35.7 (14)	3.4 (29)	+ 32.3

*Difference in percentage points between those with less and more contact. Plus sign indicates more contact promoted positive change, or net effect of contact.

( ) = base N.

Putting this together leads to some interesting conclusions:

--- The Volunteer was failing at what he was supposed to do--improve teaching through advice.

--- The Volunteer was providing important services. He was: a) supporting favorable attitudes among the gatekeeper teachers, and b) working to make pupil exposure possible.

Later data bear on this. An analysis of about 275 critical problems reported by Volunteers indicated not only that three-fourths were non-instructional, but that four out of 10 involved the Volunteer with someone other than a teacher, in or out of the school system.

The non-instructional concerns were not transient for the Volunteers, for they were regularly shifted to new sites. As a result, the conception of the Volunteer's role changed from teaching consultant to school developer, analogous to the better known community developer.

During this early period, Volunteer morale fell. They could see the failure to improve teaching themselves. Most had been selected for interest in educational television, not education. In addition to the pressures of other problems, they felt unqualified and unconfident about giving teaching advice. Many were bored with the routine of visiting schools, whatever the job.

This led the Peace Corps to a reconsideration of training and selection:

--- It was apparent that while the Peace Corps had opened a channel for educational communication to Colombia's teachers, it had neither trained nor selected people readily able to use it.

--- Training had to encompass school development, as well as produce Volunteers with some capacity for improving teaching.

--- Prior teaching experience or training became a criterion, to insure knowledge, confidence, and interest, and reduce what had to be covered in Peace Corps training.

The success of these changes is perhaps reflected in attrition. Of the first utilization Volunteers (N = 45), a third left the project. Of those who followed next (N = 38), only 16 percent left.

The Challenge of Demanding Technology

As has been suggested, the use of television in the schools created difficulties. More precise data are available. They are instructive. This is particularly so for those who believe that the education problems of developing countries can be solved merely by supplying receivers and broadcasting instruction.

During the second year, teachers were surveyed as to the problems they were having in using the television. The 14 item checklist was constructed on the basis of several hundred specific complaints and reports from teachers and Volunteers.

The results are disquieting (Table 3). A factor analysis suggests most problems could be classified as involving physical facilities, organization, or television operation. This suggests the major spheres of concern.

For physical problems, about four out of 10 reported insufficient seating; one out of three, overcrowding; and one out of three, inadequate curtaining. For organization, about one out of three reported confusion and lost time from room changing; one out of four, insufficient time for "motivation" and "follow-up"; one out of four, conflict with recess; and one out of five, interference from outside noise. For television operation, about one out of three reported electricity failures; one out of four, poor sound; one out of five, difficulties in set adjustment; and one out of six, set failure. Other problems were less frequent.

These are averages over two surveys, and the populations are far from identical. The results for each are similar with one exception, and it is instructive. Complaints about conflict with recess doubled, simply because repeat telecasting filled previously open time. One may quarrel over source or responsibility, or whether a report reflects the problem as stated or dissatisfaction. However, the data make it clear that merely providing for sending and receiving is not enough.

Volunteer Effectiveness

Evidence of Peace Corps effectiveness is difficult to come by. Goals are often diffuse, varied, and by the standards of some, ephemeral.

Table 3

TEACHER PROBLEMS WITH TELEVISION

Problems	Percent of Teachers Reporting Problem at End of: First Semester 1965	Second Semester 1965
Physical Facilities:		
Insufficient seats in TV room	44.3	39.1
Too many children to watch undisturbed (overcrowding)	35.5	27.2
TV room not dark enough	30.0	33.1
Organization:		
Insufficient time for "motivation" and "follow-up"	26.1	25.2
TV schedule conflicts with recess	16.5	32.8
Interference from noise outside TV room	19.6	19.7
Room changing necessitated by TV classes causes confusion	36.4	32.8
Discipline problems caused by TV	6.5	5.4
Television Operation:		
Poor sound reception	30.8	25.5
TV set too complicated to adjust for clear image and sound	24.4	20.1
TV set does not work	16.4	16.4
Electricity often fails	37.1	38.9
Other:		
Conflict with religious activities	8.1	7.7
TV set not placed so all children can see	7.1	7.6
N =	874	1,884

Evaluation and research are difficult. Whatever their results, complaints about poor measures, measurement of too little or the wrong thing, or too soon or too late, many times are justified.

Fortunately, the ETV project, by its very nature, offers something concrete. The growth of the receiving network, and the record of telecasting, are unambiguous measures of accomplishment.

In addition, it is possible to provide evidence on the school development work of the utilization Volunteer. The teachers were surveyed not only on problems, but on how much help they had received from the Volunteer. By putting these together, it is possible to see just what Volunteer help meant in practical terms.

The results are extremely impressive (Table 4). For every problem except one with very low frequency (about one teacher in 10), Volunteer help was associated with fewer reports of problems.

The finding for insufficient seating is typical. For "no help," 54 percent report this. As help increases, the figures fall: 48.6, 38.1, and finally 34.9 for "great help." The spread between the extremes is almost 20 points. The same pattern is found for other problems.

Such good results could not be accepted quietly. They were subjected to several harsh tests.

For example, the survey included a lot of teachers (about 30 percent) in areas where the television had been introduced much earlier. One might expect more problems because the project had operated less smoothly then. This proved not to explain the results. When the effects of help were analyzed separately for areas of early, middle or recent entry, the pattern within each was the same.

Again, it was possible that contact with the Volunteer could be substituted for help as a variable. This would not be so good, since Volunteers might seek out problem-free teachers. When the effects of help were analyzed separately for different degrees of Volunteer contact (measured by teacher reports on frequency of conversations), the pattern for each also was the same. In addition, contact and help were strongly related (suggesting that Volunteer activity was real), but contact apparently was only a necessary condition.

Table 4

VOLUNTEER HELP AND TELEVISION PROBLEMS

Problems	Great Help	Some Help	A Little Help	No Help	X^2	p.
Physical:						
Insufficient seats in TV room	34.9	38.1	48.6	54.0	35.90	< .001
Too many children to watch undisturbed	24.3	26.2	30.8	39.2	22.32	< .001
TV room not dark enough	22.9	34.9	39.3	51.1	77.95	< .001
Organization:						
Insufficient time for "motivation" and "follow-up"	20.3	24.0	28.5	39.6	16.83	< .001
TV schedule conflicts with recess	28.4	37.0	30.8	38.9	14.45	< .01
Interference from noise outside TV room	15.1	24.0	24.8	21.1	18.48	< .001
Room changing necessitated by TV classes causes confusion	23.1	35.9	39.7	48.7	64.51	< .001
Discipline problems caused by TV	3.5	6.6	7.5	9.8	33.87	< .001
Television Operation:						
Poor sound reception	18.3	25.1	35.0	40.0	55.58	< .001
TV set too complicated to adjust for clear image and sound	14.8	19.3	29.9	30.2	40.02	< .001
TV set does not work	10.9	15.9	25.2	25.3	41.92	< .001
Electricity often fails	35.8	41.3	42.1	45.3	8.76	< .05
Other:						
Conflict with religious activities	8.7	6.9	9.8	7.5	2.30	n.s.
TV set not placed so all children can see	5.0	6.3	13.1	12.1	24.75	< .001
N =	654	637	214	265		

The conclusion is that "help" helped. How did this happen?

Sometimes, the Volunteer would help by suggesting how the school could make better use of what it had. Sometimes, by stimulting reorganization and planning. Sometimes, by helping plan fund-raising. Sometimes, by amateur repairs, reporting the unreported, or pressing for quick service (as with set failures). Sometimes, by getting aid from officials or helping the school campaign for such aid (as with electrical failures). By ideas, cajolery, persuasion, attention.

The main point is that the Volunteer made a difference. By implication, the television problems are an underestimate of what they would have been in his absence.

Transfer of Responsibility

The Peace Corps tries to foster self-sufficiency, although it may not always succeed. Sometimes this is a matter of teaching skills, sometimes of developing new institutions. The latter is the most difficult but the most important, for without it, skills, old or new, often cannot be exercised.

Some Peace Corps gains in this area have been mentioned--the developing of the entire ETV operation, the increasing of Colombian participation, the training of Colombian personnel, and the ties with the Departments. Yet, one wonders whether help is not always somewhat self-defeating by creating dependence.

Some data tell an interesting story. Over the first semester, when the Volunteers were the only ones active in utilization, the panel study showed that teachers shifted away from Colombians and Colombian organizations and toward the Volunteer. More specifically, choices of the Volunteer for possible communication--complaints, comments, or criticism--about ETV increased, while other choices decreased.

What this reflected was something to worry about. If only the Volunteers seemed to represent the project, then any sense of a tie would depart with them. The loss to the teacher would be great. When the Departments appointed the special supervisors for ETV, there was a dramatic change (Table 5). Now in the surveys Volunteer choices fell somewhat (more than 20 percentage points, to about 62 percent),

Table 5

PERSONS AND AGENCIES TO WHICH TEACHERS WOULD DIRECT A COMMENT, COMPLAINT, OR SUGGESTION ABOUT ETV, IN 1964 AND 1965

Person or Agency	Percent Citing Person or Agency in Survey of:		
	June, 1964	June, 1965	Nov., 1965
Peace Corps Volunteer	84.9	61.4	61.7
Special Department ETV Supervisor	*	39.5	46.1
Regular District Supervisor	11.9	26.0	26.0
School Principal	11.1	23.7	25.8
Instituto de Radio y Television	13.1	22.9	23.7
Television Teacher	**	19.6	15.0
Ministry of Education	3.5	2.4	4.3
Ministry of Communication	**	1.0	1.9
N =	250	874	1,884

*Position not created until later.

**Not included in checklist in this survey

and the supervisor ran a respectable second (about 46 percent in the final survey). In addition, other Colombian choices increased.

Of course, these shifts are not due simply to the activities of a Colombian in utilization. They represent the gradual success of the Peace Corps in building a Colombian base.

One still might question whether Volunteer help might not inhibit orientation toward Colombians, for what was grossly true for the project might not hold for this specific kind of individual contact. This was tested by examining the effect of help on choice among teachers in all the areas new to television in the final survey. (This was the best test because both the supervisor program and Volunteer activity were fully operative.) The finding was that Volunteer help actually was positively associated with orientation toward the supervisor (Table 6).

It would seem that not only were the Peace Corps' organizational maneuvers and project development a success in creating self-sufficiency. In addition, the daily work of the Volunteer had the same effect.

Table 6

VOLUNTEER HELP AND TEACHER ORIENTATION TOWARD ETV SUPERVISOR--NEW TELEVISION AREAS*

Teacher:	Teacher Received: "Great Help" (Percent of	Less Help** Teachers)
Names ETV Supervisor as Target for Communication	51.0 (134)	40.3 (100)
Does Not Name ETV Supervisor as Target for Communication	49.0 (129)	59.7 (148)
	100.0	100.0 $X^2 = 5.80$ (p. < .02)

*Second semester, 1965.

**"Some Help," "A Little Help," and "No Help" combined.

CONCLUSION

The ETV project is not the ordinary education project. The Volunteers did not teach in the usual meaning of the term. Instead, they mediated between advanced technology and a developing society.

The Peace Corps achieved a great deal. Things did not always go as expected, however.

The utilization Volunteer's role was far broader than planned. He was not as effective as had been hoped in improving teaching directly. His job evolved into school development, with consulting on teaching only part of it. Non-teaching problems consumed much of his time, and he proved effective in achieving support among the gatekeeper teachers.

The original selection and training proved wrongly slanted. Many Volunteers selected for interest in educational televised became bored with daily events in the schools, and lacked both the knowledge and confidence to advise on teaching. The criterion of prior experience of training in teaching, and training for school development, as well as consulting, seemed more successful.

This emphasis on education background does not conflict with any claims about its effects on performance of Volunteer teachers. These Volunteers did not teach.

The problems of using electronic technology in a developing country were many. The change to television in the schools put pressure on physical facilities and tested organizational flexibility. Often, making the television function as it should was difficult.

The utilization Volunteers proved to make a very large and important difference to the project. Given their effectiveness, and the quantity of problems that occurred in spite of it, it is disturbing to think of how the project would have fared without them.

In addition to developing an extensive televised curriculum, and expanding the project throughout the country, the Peace Corps was able to promote Colombian self-sufficiency. An important aspect of this was the tie with the Departments, which illustrates the importance of finding the right government level as the basis for a new institution. Today, the Peace Corps is "phasing-out," and the project is almost completely Colombian.

If there is a single large lesson to be drawn from this Peace Corps undertaking, it is that with the so-called "new media" in education, the point of reception requires assiduous attention. For a project of this sort to have any real chance of success, the functions fulfilled by the utilization Volunteers must be fulfilled by someone. This is a lesson not only for the Peace Corps, but all developers. Otherwise, there is only a show of education, although complete with stage settings of sending and receiving, before an empty theater.

Appendix

ABOUT CONTRETEMPS

The only rule for Peace Corps research is that there are no rules. Research both in developing countries and on social action programs has an unusual capacity to generate frustrations, and the two combine in the Peace Corps. Professional life follows the parable of the servant who flees to Samarra after seeing death in the marketplace, while death visits his master with the message that he will miss the local meeting because of an appointment in Samarra. Whichever way the researcher turns, there is likely to be an unhappy surprise.

Some of the difficulties involved the Colombian schools. Records were poor for sampling, with even school addresses and names inaccurate. Teachers and officials were unfamiliar with both the ways and utility of research. Schedules differed between schools, were undependable, and difficult to verify. This applied to hours, days, and weeks of operation, and especially to holidays; the grades taught; and the sex of students. Education in daily operation was laissez-faire.

Some involved Colombia's economic and social development. Supplies and equipment were often unavailable, and spare parts and repair knowledge scarce. Communication, especially by telephone, was always difficult and often impossible. Transportation and shipping were unreliable. Television transmission sometimes failed, affecting research designs. The same power failures that left schools without television disabled office equipment. Social disruptions -- strikes and political events -- interferred with communication, transportation, research designs, and work. The large number of public holidays (about 26, few of which the researchers enjoyed), with two weeks of national vacation at Easter and Christmas, caused delays.

Some involved the Peace Corps. With the Peace Corps, plans and operations shift constantly beneath the desert boots of the researcher. In addition, although much was done that was possible only because of the very real help of Volunteers, sometimes a Volunteer saw a conflict between research and his job. Understandably, when he saw things this way, the resolution did not always favor research.

Some involved the researchers. Frustration is not known for its benign effects on mood, temper, or judgment.

Many of the problems in themselves were trivial. Yet the end consequences of "want of nail..." were always threatening.

A few specific incidents may be of interest:

--- For all printing, the researchers depended on a Multilith provided for the ETV project. Operation was made a Colombian responsibility, and to forestall breakdowns only one man was authorized as operator. The researchers were the first clients. The job was a big one. Too late for a commerical printer, it was found that the operator had failed to benefit from the local distributor's instruction, and was almost afraid of the machine. Over many long nights, sheets whopped (the onomatopoeia is accurate) from this 9,000-copy an hour device at 1/500th that rate. The nights were long, because the researchers were the guard against the operator's desertion. Dawn in Bogota is rewarding, but the effect wanes with time.

--- Even when two very competent young men became the Multilith operators, service was not always sure. There were breakdowns, made more serious by the scarcity of parts and repair knowledge, and power failures. A missed deadline was always a breakdown away.

--- Before the final week of school, when tests were scheduled for distribution to schools outside the capital, the Army unexpectedly closed all roads to restrict terrorist movement during an election.

--- For future use, surveyed teachers were coded for the Volunteers working with them. This involved a great deal of detective work, and one cost was a long delay in processing other data. When everything was ready, Volunteer assignments were completely changed. A minor reward was client impatience for survey results.

--- As part of a field experiment, a set of randomly selected schools were not to have television. This was possible because there were more schools than could be served. The "NO TV" list was misread by the very capable Volunteer in charge, and within 48 hours all had television as "MUST TV" schools.

--- For another experiment, arrangements were made to use classes in an area several hours by road from Bogota where television was new.

The groundwork was assiduous, with numerous site visits. Just as television began, the area's transmission tower failed. When television began again several weeks later, the teachers closed the schools in a strike for unpaid salaries.

--- In the midst of administering one of the tests, a Bogota school released all pupils and closed. A phone call had announced that overdue paychecks were ready downtown.

--- During a test conscientiously being monitored by a Volunteer, a teacher appointed several pupils to sell donuts to the others.

--- In honoring a promise to return completed tests quickly, a Volunteer who found the Peace Corps office closed left a set outside and the celadora (woman who lives in a building as janitress and lookout for thieves), seeing that they had been used, put them in the basura (incinerator).

--- Several times, work at the research office, in a national television building on the road to the airport, was impossible. More than once it was sealed off by rioting at the nearby national university, and for more than a week a transportation strike halted movement in the city.